

APPLICABLE REQUIREMENTS – Federal and Idaho Regulations

Applicable	Citation	Description	Comment
No	58.01.01.177 -- 181	Application Procedures, Standard Contents of Permits Establishing a Facility Emissions Cap, Procedures for Issuing Permits Establishing a Facility Emissions Cap, Revisions to Permits Establishing a Facility Emissions Cap, Notice and Record-Keeping of Estimates of Ambient Concentrations	This facility is not seeking a facility emissions cap; therefore, this regulation does not apply. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.182 -- 198	(Reserved)	
No	58.01.01.199	Electric Generating Unit Construction Prohibition	This facility is not an electric generating unit; therefore, the rule does not apply.
No	58.01.01.200	Procedures and Requirements for Permits to Construct	This regulation introduces the subsequent sections 201 – 228 and contains definitions. No specific requirements are specified.
Yes	58.01.01.201	Permit to Construct Required	This application is for the addition of natural gas-fired boiler SB-C, and a Permit To Construct is required to operate the boiler.
Yes	58.01.01.202	Application Procedures	This application is for the addition of natural gas-fired boiler SB-C. This application seeks an altered permit within the meaning of this sub-chapter; therefore, these rules do apply.
Yes	58.01.01.203	Permit Requirements for New and Modified Stationary Sources	This application is for the addition of natural gas-fired boiler SB-C. This application seeks an altered permit within the meaning of this sub-chapter; therefore, these rules do apply.
No	58.01.01.204	Permit Requirements for New Major Facilities or Major Modifications in Nonattainment Areas	This facility is not a proposed major stationary source or major modification to a source located within a non-attainment area. The provisions of these regulations are not applicable at this time.
No	58.01.01.205	Permit Requirements for New Major Facilities or Major Modifications in Attainment or Unclassifiable Areas	This facility is not a proposed major stationary source or major modification to a source. The provisions of these regulations are not applicable at this time.
No	58.01.01.206	Optional Offsets for Permits to Construct	This facility is not proposing an emissions offset; therefore, these rules do not apply at this time.
No	58.01.01.207	Requirements for Emission Reduction Credit	This facility is not proposing an emissions reduction credit with this Operating Permit renewal; therefore, these rules do not apply at this time.

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Applicable	Citation	Description	Comment
No	58.01.01.208	Demonstration of Net Air Quality Benefit	This facility is not demonstrating a Net Air Quality Benefit with this Operating Permit renewal; therefore, these rules do not apply at this time.
Yes	58.01.01.209	Procedure for Issuing Permits	This rule does apply.
Yes	58.01.01.210	Demonstration of Preconstruction Compliance With Toxic Standards	This application seeks an altered permit within the meaning of this sub-chapter; therefore, these rules do apply.
Yes	58.01.01.211	Conditions for Permits to Construct	This application seeks an altered permit within the meaning of this sub-chapter; therefore, these rules do apply.
Yes	58.01.01.212	Obligation to Comply	This application seeks an altered permit within the meaning of this sub-chapter; therefore, these rules do apply.
Yes	58.01.01.213	Pre-Permit Construction	This application seeks an altered permit within the meaning of this sub-chapter; therefore, these rules do apply.
No	58.01.01.214	Demonstration of Preconstruction Compliance for New and Reconstructed Major Sources of Hazardous Air Pollutants	This application does not seek a new or altered permit within the meaning of this sub-chapter; therefore, these rules do not apply at this time.
No	58.01.01.215 -- 219	(Reserved)	
No	58.01.01.220	General Exemption Criteria For Permit To Construct Exemptions	This application does not seek an exemption, therefore these rules do not apply.
No	58.01.01.221	Category I Exemption	This application does not seek an exemption, therefore these rules do not apply.
No	58.01.01.222	Category II Exemption	This application does not seek an exemption, therefore these rules do not apply.
No	58.01.01.223	Exemption Criteria and Reporting Requirements For Toxic Air Pollutant Emissions	This application does not seek an exemption, therefore these rules do not apply.
No	58.01.01.224	Permit to Construct Application Fee	This application is for the purposes of a Title V operating permit renewal. This application does not seek a new or altered permit within the meaning of this sub-chapter; therefore, these rules do not apply at this time.

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Applicable	Citation	Description	Comment
Yes	58.01.01.225	Permit to Construct Processing Fee	This application seeks an altered permit within the meaning of this sub-chapter; therefore, this rule does apply.
Yes	58.01.01.226	Payment of Fees for Permits to Construct	This application seeks an altered permit within the meaning of this sub-chapter; therefore, this rule does apply.
Yes	58.01.01.227	Receipt and Usage of Fees	This application seeks an altered permit within the meaning of this sub-chapter; therefore, this rule does apply.
Yes	58.01.01.228	Appeals	This application seeks an altered permit within the meaning of this sub-chapter; therefore, this rule does apply.
No	58.01.01.229 -- 299	(Reserved)	
No	58.01.01.300	Procedures and Requirements for Tier I Operating Permits	This is an introductory section and contains no requirements.
Yes	58.01.01.301	Requirement to Obtain Tier I Operating Permit	This regulation is applicable to this facility.
No	58.01.01.302	Optional Tier I Operating Permit	This facility is required to obtain a Tier I Operating Permit.
No	58.01.01.303 -- 310	(Reserved)	
No	58.01.01.311	Standard Permit Applications	This is an introductory section and contains no requirements.
Yes	58.01.01.312	Duty To Apply	This regulation is applicable to this facility.
Yes	58.01.01.313	Timely Application	This regulation is applicable to this facility.
Yes	58.01.01.314	Required Standard Application Form and Required Information	This regulation is applicable to this facility.
Yes	58.01.01.315	Duty to Supplement or Correct Application	This regulation is specified in the existing operating permit, and continues to be applicable to this facility.
Yes	58.01.01.316	Effect of Inaccurate Information In Applications or Failure to Submit Relevant Information	This regulation is applicable to this facility.
Yes	58.01.01.317	Insignificant Activities	This regulation is applicable to this facility.
No	58.01.01.318 -- 320	(Reserved)	
No	58.01.01.321	Tier I Operating Permit Content	This is an introductory section and contains no requirements.

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Applicable	Citation	Description	Comment
No	58.01.01.322	Standard Contents of Tier I Operating Permits	This regulation is specified in the existing operating permit and contains various requirements for inclusion in the permit by the Department.
No	58.01.01.323 -- 324	(Reserved)	
No	58.01.01.325	Additional Contents of Tier I Operating Permits -- Permit Shield	This regulation is specified in the existing operating permit and contains various requirements for inclusion in the permit by the Department.
No	58.01.01.326 -- 331	(Reserved)	
No	58.01.01.332	Emergency as an Affirmative Defense Regarding Excess Emissions	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.333 -- 334	(Reserved)	
No	58.01.01.335	General Tier I Operating Permits and Authorizations to Operate	This facility is not of this source category; therefore, these regulations do not apply.
No	58.01.01.336	Tier I Operating Permits for Tier I Portable Sources	This facility is not of this source category; therefore, these regulations do not apply.
No	58.01.01.337 -- 359	(Reserved)	
No	58.01.01.360	Standard Processing of Tier I Operating Permit Applications	This is an introductory section and contains no requirements.
Yes	58.01.01.361	Completeness of Applications	These regulations specify various requirements for the Department, except for the completeness clause of Section 361.01. This portion of the regulation is specified in the existing operating permit, and continues to be applicable to this facility.
No	58.01.01.362	Technical Memorandums for Tier I Operating Permits	These regulations specify various requirements for the Department.
No	58.01.01.363	Preparation of Draft Permit or Draft Denial	These regulations specify various requirements for the Department.

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Applicable	Citation	Description	Comment
No	58.01.01.364	Public Notices, Comments and Hearings	These regulations specify various requirements for the Department.
No	58.01.01.365	Preparation of Proposed Permit or Proposed Denial	These regulations specify various requirements for the Department.
No	58.01.01.366	EPA Review Procedures	These regulations specify various requirements for the Department.
No	58.01.01.367	Action on Application	These regulations specify various requirements for the Department.
No	58.01.01.368	Expiration of Preceding Permits	These regulations specify various requirements for the Department.
Yes	58.01.01.369	Tier I Operating Permit Renewal	This regulation is applicable to this facility.
No	58.01.01.370 -- 379	(Reserved)	
No	58.01.01.380	Changes to Tier I Operating Permits	This section defines subsequent sections 381 – 399, and contains no specific requirements.
Yes	58.01.01.381	Administrative Permit Amendments	Though this section contains Department protocol followed during permit administrative changes, this facility will abide by all requirements specified in this section for initiating administrative changes to the permit.
Yes	58.01.01.382	Significant Permit Modification	This regulation is applicable to this facility.
Yes	58.01.01.383	Minor Permit Modification	This regulation is applicable to this facility.
No	58.01.01.384	Section 502(b)(10) Changes and Certain Emission Trades	This application is for the purposes of a Title V renewal. This application does not seek a new or altered permit within the meaning of this section; therefore, these rules do not apply at this time.
Yes	58.01.01.385	Off-Permit Changes and Notice	This regulation is applicable to this facility.
No	58.01.01.386	Reopening for Cause	These regulations specify various requirements for the Department.
No	58.01.01.387	Registration and Registration Fees	This is an introductory section and contains no requirements.

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Applicable	Citation	Description	Comment
Yes	58.01.01.388	Applicability	This regulation is applicable to this facility.
Yes	58.01.01.389	Registration Information	This regulation is applicable to this facility.
Yes	58.01.01.390	Registration Fee	This regulation is applicable to this facility.
Yes	58.01.01.391	Request for Information	This regulation is applicable to this facility.
Yes	58.01.01.392	Registration Fee Assessment	This regulation is applicable to this facility.
Yes	58.01.01.393	Payment of Tier I Registration Fee	This regulation is applicable to this facility.
Yes	58.01.01.394	Effect of Delinquency on Applications	This regulation is applicable to this facility.
No	58.01.01.395	Appeals	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.
Yes	58.01.01.396	Exemptions	This regulation is applicable to this facility, particularly fugitive dust emissions.
No	58.01.01.397	Lump Sum Payments of Registration Fees	This regulation is not applicable to this facility.
No	58.01.01.398 -- 399	(Reserved)	
No	58.01.01.400	Procedures and Requirements for Tier II Operating Permits	This facility has a Tier I Operating Permit. This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.401	Tier II Operating Permit	This facility has a Tier I Operating Permit. This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.

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Applicable	Citation	Description	Comment
No	58.01.01.402	Application Procedures	This facility has a Tier I Operating Permit. This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.403	Permit Requirements for Tier II Sources	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.404	Procedure for Issuing Permits	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.405	Conditions for Tier II Operating Permits	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.406	Obligation to Comply	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.407	Tier II Operating Permit Processing Fee	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.

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Applicable	Citation	Description	Comment
No	58.01.01.408	Payment of Tier II Operating Permit Processing Fee	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.409	Receipt and Usage of Fees	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.410	Appeals	This facility has a Tier I Operating Permit . This application does not seek a Tier II Operating Permit within the meaning of this section; therefore, these rules do not apply at this time. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.411 -- 439	(Reserved)	
No	58.01.01.440	Requirements for Alternative Emission Limits (Bubbles)	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.441	Demonstration of Ambient Equivalence	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.442 -- 459	(Reserved)	
No	58.01.01.460	Requirements for Emission Reduction Credit	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.

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Applicable	Citation	Description	Comment
No	58.01.01.461	Requirements for Banking Emission Reduction Credits (ERCs)	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.462 -- 499	(Reserved)	
No	58.01.01.500	Registration Procedures and Requirements for Portable Equipment	This regulation is not applicable to this facility.
No	58.01.01.501 -- 509	(Reserved)	
No	58.01.01.510 -- 516	Stack Heights and Dispersion Techniques, Applicability, Definitions, Requirements, Opportunity for Public Hearing, Approval of Field Studies and Fluid Models, No Restriction on Actual Stack Height	These regulations specify GEP for stack height determinations. This application is for the purposes of a Tier I Operating Permit renewal. No modifications to the stack height credit are being requested or identified at this time.
No	58.01.01.517 -- 549	(Reserved)	
No	58.01.01.550 – 553 58.01.01.554 – 555 (reserved) 58.01.01.556 --562	Air Pollution Emergency Rule, Episode Criteria, Stages, Effect of Stages, (Reserved), Criteria for Defining Levels Within Stages, Public Notification, Information to be Given, Manner and Frequency of Notification, Notification to Sources, General Rules, Specific Emergency Episode Abatement Plans for Point Sources	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I recognizes the potential enforcement of these provisions if future circumstances arise.
No	58.01.01.563 -- 574	Transportation Conformity, Incorporation by Reference, Abbreviations, Definitions for the Purpose of Sections 563 Through 574 and 582, Agencies Affected by Consultation, ICC Member Roles in Consultation, ICC Member Responsibilities in Consultation, General Consultation Process, Consultation Procedures, Final Conformity Determinations by USDOT, Resolving Conflicts, Public Consultation Procedures	These regulations specify various requirements for the regulatory agencies. These regulations are not applicable to this facility.
No	58.01.01.575	Air Quality Standards and Area Classification	This is an introductory section and contains no requirements.
No	58.01.01.576	General Provisions for Ambient Air Quality Standards	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.577	Ambient Air Quality Standards for Specific Air Pollutants	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.

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Applicable	Citation	Description	Comment
No	58.01.01.578	Designation of Attainment, Unclassifiable, and Nonattainment Areas	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.579	Baselines for Prevention of Significant Deterioration	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.580	Classification of Prevention of Significant Deterioration Areas	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.581	Prevention of Significant Deterioration (PSD) Increments	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.582	Interim Conformity Provisions for Northern Ada County Former Nonattainment Area for PM-10	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.583 -- 584	(Reserved)	
No	58.01.01.585	Toxic Air Pollutants Non-carcinogenic Increments	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.586	Toxic Air Pollutants Carcinogenic Increments	These regulations set forth ambient air quality standards for the state, and contain no facility-specific requirements.
No	58.01.01.587	Listing or Delisting Toxic Air Pollutant Increments	Currently there are no projects or circumstances existing at the facility that would subject U of I to these provisions. However, U of I reserves the right to use these provisions if future circumstances arise.
No	58.01.01.588 -- 589	(Reserved)	
No	58.01.01.590	New Source Performance Standards	There are no emitting units at the facility that are subject to NSPS regulations. This regulation does not apply.
No	58.01.01.591	National Emission Standards for Hazardous Air Pollutants	There are no emitting units at the facility that are subject to NESHAPs regulations. This regulation does not apply.
No	58.01.01.592 -- 599	(Reserved)	

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Applicable	Citation	Description	Comment
Yes	58.01.01.600 – 603, 604 -- 605, 606 -- 616	Rules for Control of Open Burning, Fire Permits, Hazardous Materials, and Liability, Nonpreemption of Other Jurisdictions, General Restrictions, (Reserved), Categories of Allowable Burning, Recreational and Warming Fires, Weed Control Fires, Training Fires, Industrial Flares, Residential Solid Waste Disposal Fires, Landfill Disposal Site Fires, Orchard Fires, Prescribed Burning, Dangerous Material Fires, Infectious Waste Burning	This regulation is specified in the existing operating permit, and continues to be applicable to this facility.
Yes	58.01.01.617	Crop Residue Disposal	This facility will comply with these regulations in the unlikely event that crop residues require open burning.
No	58.01.01.618 -- 624	(Reserved)	
Yes	58.01.01.625	Visible Emissions	This regulation is specified in the existing operating permit, and continues to be applicable to this facility
No	58.01.01.626	General Restrictions on Visible Emissions From Wigwam Burners	The University does not own or operate a wigwam burner; therefore, this regulation is not applicable to this facility.
No	58.01.01.627 -- 649	(Reserved)	
Yes	58.01.01.650, 651	Rules for Control of Fugitive Dust, General Rules	This regulation is specified in the existing operating permit, and continues to be applicable to this facility
No	58.01.01.652 -- 664	(Reserved)	
No	58.01.01.665	Regional Haze Rules	These regulations specify various requirements for the Department.
No	58.01.01.666	Reasonable Progress Goals	These regulations specify various requirements for the Department.
No	58.01.01.667	Long-Term Strategy for Regional Haze	These regulations specify various requirements for the Department.
No	58.01.01.668	BART Requirement for Regional Haze	These regulations specify various requirements for the Department.
No	58.01.01.669 -- 674	(Reserved)	

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Applicable	Citation	Description	Comment
No	58.01.01.675	Fuel Burning Equipment -- Particulate Matter	This is an introductory section and contains no requirements.
No	58.01.01.676	Standards for New Sources	The natural gas-fired boiler SB-C is not subject to any NSPS Subpart, therefore this rule does not apply.
Yes	58.01.01.677	Standards for Minor and Existing Sources	This regulation is specified in the existing operating permit, and continues to be applicable to this facility
Yes	58.01.01.678	Combinations of Fuels	This regulation is applicable to this facility.
Yes	58.01.01.679	Averaging Period	This regulation is applicable to this facility.
Yes	58.01.01.680	Altitude Correction	This regulation is applicable to this facility.
Yes	58.01.01.681	Test Methods and Procedures	This regulation is applicable to this facility.
No	58.01.01.682 -- 699	(Reserved)	
Yes	58.01.01.700	Particulate Matter -- Process Weight Limitations	This regulation is applicable to this facility.
Yes	58.01.01.701	Particulate Matter -- New Equipment Process Weight Limitations	This regulation is applicable to this facility.
Yes	58.01.01.702	Particulate Matter -- Existing Equipment Process Weight Limitations	This regulation is applicable to this facility.
Yes	58.01.01.703	Particulate Matter -- Other Processes	This regulation is applicable to this facility.
No	58.01.01.704 -- 724	(Reserved)	
Yes	58.01.01.725	Rules for Sulfur Content of Fuels	This regulation is applicable to this facility.
No	58.01.01.726	Definitions as Used in Sections 727 Through 729	These regulations do not contain any requirements; they are definition sections.
No	58.01.01.727	Residual Fuel Oils	This facility does not use this type of fuel; therefore, these regulations do not apply.
Yes	58.01.01.728	Distillate Fuel Oil	This regulation is specified in the existing operating permit, and continues to be applicable to this facility.
No	58.01.01.729	Coal	This facility does not use this type of fuel; therefore, these regulations do not apply.

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Applicable	Citation	Description	Comment
No	58.01.01.730 -- 749	(Reserved)	
No	58.01.01.750	Rules for Control of Fluoride Emissions	This is an introductory section and contains no requirements.
No	58.01.01.751	General Rules	This facility does not operate this type of equipment; therefore, this regulation does not apply.
No	58.01.01.752 -- 759	(Reserved)	
No	58.01.01.760	Rules for the Control of Ammonia from Dairy Farms	This is an introductory section and contains no requirements.
No	58.01.01.761-764	General Applicability, Permit by Rule, Registration for Permit by Rule, Dairy Farm Best Management Practices	This facility does not operate this type of equipment; therefore, this regulation does not apply.
No	58.01.01.765 -- 774	(Reserved)	
Yes	58.01.01.775, 776	Rules for Control of Odors, General Rules	This regulation is specified in the existing operating permit, and continues to be applicable to this facility.
No	58.01.01.777 -- 784	(Reserved)	
No	58.01.01.785	Rules for Control of Incinerators	The SB-C boiler is not an affected facility as defined by this rule.
No	58.01.01.786	Emission Limits	The SB-C boiler is not an affected facility as defined by this rule.
No	58.01.01.787	Exceptions	The SB-C boiler is not an affected facility as defined by this rule.
No	58.01.01.788 -- 789	(Reserved)	
No	58.01.01.790 -- 799	Rules for the Control of Nonmetallic Mineral Processing Plants, General Control Requirements, Emissions Standards for Nonmetallic Mineral Processing Plants Subject to 40 CFR 60, Subpart OOO, Emissions Standards for Nonmetallic Mineral Processing Plants Not Subject to 40 CFR 60, Subpart OOO, Permit Requirements, Permit by Rule Requirements, Applicability, Registration for Permit by Rule, Electrical Generators, Nonmetallic Mineral Processing Plant Fugitive Dust Best Management Practice	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.800 -- 802	Registration Fee for Permit by Rule, Payment of Fees for Permits by Rule Registration, Receipt and Usage of Fees	This application does not seek a permit by rule; therefore, these regulations do not apply at this time.

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Applicable	Citation	Description	Comment
No	58.01.01.803 -- 804	(Reserved)	
No	58.01.01.805 -- 808	Rules for Control of Hot-Mix Asphalt Plants, Emission Limits, Multiple Stacks, Fugitive Dust Control	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.809 -- 814	(Reserved)	
No	58.01.01.815 -- 826	Rules for Control of Kraft Pulp Mill, Statement of Policy, General Rules, Recovery Furnace Standards, Recovery Furnace TRS Standards, Digester and Evaporator Standards, Recovery Furnace Particulate Standards, Lime Kiln Standards, Smelt Tank Standards, Monitoring and Reporting, Special Studies, Exceptions	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.827 -- 834	(Reserved)	
No	58.01.01.835 -- 839	Rules for Control of Rendering Plants, Control of Cookers, Control of Expellers, Control of Plant Air, Exceptions	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.840 -- 844	(Reserved)	
No	58.01.01.845 -- 848	Rules for Control of Sulfur Oxide Emissions from Sulfuric Acid Plants, Emission Limits, Monitoring and Testing, Compliance Schedule	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.849 -- 854	(Reserved)	
No	58.01.01.855-858	Combined Zinc and Lead Smelters, Combined Zinc and Lead Smelters -- Control of Fugitive Sulfur Dioxide Emissions, Combined Zinc and Lead Smelters -- Oxides of Sulfur, Stack Monitoring Requirements	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.859	Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction or Modification on or after May 30, 1991	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.860	Emission Guidelines for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction or Modification Before May 30, 1991	This facility does not operate this type of equipment; therefore, these regulations do not apply.
No	58.01.01.861	Standards of Performance for Hospital/Medical/ Infectious Waste Incinerators That Commenced Construction After June 20, 1996, or for Which Modification is Commenced After March 16, 1998	This facility does not operate this type of equipment; therefore, these regulations do not apply.

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Applicable	Citation	Description	Comment
No	58.01.01.862	Emission Guidelines for Hospital/Medical/Infectious Waste Incinerators That Commenced Construction Before June 20, 1996	This facility is exempted from the emissions requirements of IDAPA 58.01.01.862 by complying with the exemption listed in IDAPA 58.01.01.862(2).
No	58.01.01.863 -- 999	(Reserved)	

**APPENDIX G: WOOD-WASTE-FIRED BOILER EMISSIONS
TEST SUMMARIES**

**Emission Test Report
for
The University of Idaho
Wood Fired Boiler
of
Particulate Matter
Carbon Monoxide
&
Opacity**

TE&E Project #9639

March 23, 1998

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1. INTRODUCTION

1.1 Summary of Test Program

The University of Idaho (U of I) contracted with Travis Energy & Environment, Inc. (TE&E) to perform emissions testing of the Solid Fuels Inc. furnace at their Moscow power plant. The boiler was fired by hogged fuel and wood chips.

The specific test objectives were to measure particulate matter and carbon monoxide emissions, and opacity from the boiler. Carbon monoxide testing was carried out on February 26, 1998, the opacity determination was done on February 27, 1998, and the particulate testing was done on February 28, 1998.

1.2 Key Personnel

The key personnel who coordinated the test program were:

Project Manager	Brent N. Travis, TE&E	208-772-9149
University Contact	Don Husky, U of I	208-885-7350
Plant Contact	Gerald Hanks, U of I	208-885-6271

2. PLANT AND SMAPLING LOCATION DESCRIPTION

2.1 Process Description and Operation

The Solid Fuels Inc. furnace fires a Nebraska boiler. A block diagram of the facility is shown in Figure 1. The Nebraska boiler's nameplate ring is 60,000 pph of steam. Operating steam flows during testing ranged between 48,000 and 81,000 pph of 127 to 160 psig steam. A steam production factor of 6.90 lbs of steam per bone dry lb of wood was determined as shown in Appendix A. The properties of the wood waste fired are presented in Table 2-1. Methods of analysis and number of samples tested are stated in Appendix A. Table 2-2 shows fuel and steam average flow rates for each test calculated from the steam integrator and the above steam production factor.

Chart trends showing steam flow, steam pressure, % oxygen, % opacity, collector pressure and system temperature profiles are presented in Appendix A.

Table 2-1 Fuel Properties

Property	Average	Maximum	Minimum	Standard Deviation
Moisture, wt%	51.2	57.3	32.8	3.55
Combustibles, wt%, dry basis	98.4	98.9	98.1	0.25
Ash, dry wt%	1.64	1.95	1.12	0.25
Higher Heating Value BTU / dry lb	9498	11074	8644	488

Table 2-2 Process Flow Rates

Test	Fuel BD lbs	Fuel Flow BD lbs/hr	Steam 1,000 lbs	Steam Flow kpph
1	12174	11781	84	81
2	9130	8695	63	60
3	12609	7642	87	53
5	N/A	N/A	N/A	N/A
6	12319	8213	85	57
7	10145	7515	70	52
8	9420	6978	65	48

2.2 Control Equipment Description

Emissions from the boiler are controlled by an internal cyclone. Opacity is recorded by a continuous emissions monitoring system (CEMS). Both the boiler and CEMS were in sound working condition.

2.3 Flue Gas Sampling Locations

The unit has an inner stack diameter of 59". Two sampling ports (90 degree offset) are located greater than eight stack diameters, from the top of the stack which is the nearest downstream flow disturbance. The upstream distance to the nearest flow disturbance is approximately 4.2 stack diameters from the ports. Twenty-four traverse points were sampled for the Solid Fuels Stoker unit particulate test; stack traverse points were located at:

1.24, 3.95, 6.96, 10.44, 14.75, 21.00, 38.00, 44.25, 48.56, 52.04, 55.05, and 57.76 inches along the two diameters tested.

2.4 Process Sampling Locations

Fuel samples were collected from the boiler feed system during testing of U of I personnel. The sample was double sealed in large freezer zip lock bags and tested as outlined in section 4.2.

3. DISCUSSION OF TEST RESULTS

3.1 Specific Objectives and Test Matrix

The test was to obtain and document data for determination of particulate and carbon monoxide emission and opacity for compliance after unit modification. Specific test objectives were as follows:

- Measure particulate matter emissions from the boiler stack by EPA Reference Methods 5 (including EPA Reference Methods 1, 2, 3, and 4).
- Measure Carbon Monoxide emissions from the boiler stack by EPA Reference Method 10 using EPA Reference Method 6C QA/QC protocol.
- Opacity was carried out in accordance with Idaho Division of Environmental Quality's "Evaluation of Visible Emissions Manual".

Table 3-1 presents the actual sampling matrix log.

Table 3-1 Sampling Matrix

Date	Run #	Sample Type	Location	Test Method	Start Time	Sample Time
02/26/98	1	CO	Solid Fuels Unit Stack	M10	15:14	62 min
02/26/98	2	CO	Solid Fuels Unit Stack	M10	17:30	63 min
02/26/98	3	CO	Solid Fuels Unit Stack	M10	19:46	99 min
02/27/98	4	PM	Solid Fuels Unit Stack	M5	14:26	scratched due to equipment
02/27/98	5	Opacity	Solid Fuels Unit Stack	IDEQ	14:00	60 min
02/28/98	6	PM	Solid Fuels Unit Stack	M5	08:37	72 min
02/28/98	7	PM	Solid Fuels Unit Stack	M5	12:00	72 min
02/28/98	8	PM	Solid Fuels Unit Stack	M5	15:39	72 min

3.2 Field Changes

No field changes were made.

3.3 Presentation of Results

3.3.1 Particulate Results

Tables 3-2 summarizes the results of the particulate tests. All results are presented in mass/dscf as well as lb/hr. Field data and detailed analysis tabulated by run are found in Appendix C. Cyclonic flow was checked and was not present in the stack per Method One.

3.3.2 Analyzer Tests

Table 3-3 summarizes the results of the carbon monoxide test. All results are presented in mass/dscf as well as lb/hr. Carbon monoxide concentration trends expressed as ppm dry volume are presented in Graphs 3.3-1, 3.3-2, and 3.3-3. Tabulated field data by run for each emission point and a copy of the chart record are found in Appendix B.

3.3.2 Opacity Results

A large attached steam plume existed during opacity determination. Observations were made at the point the steam plume dissipated between 100 and 200 feet down wind of the stack. At this observation point zero opacity was present from smoke. The visible emissions observation form presenting field data for the 60 minute test period is located in Appendix D.

4. SAMPLING AND ANALYTICAL PROCEDURES

4.1 Test Methods

EPA Reference Methods 1, 2, 3, 4, and 5, found in Appendix A of 40 CFR 60 were performed with no deviation. The IDEQ method of Opacity determination was carried out for 60 minutes. EPA Reference Method 10 was performed for determination of carbon monoxide with instrument and system bias checks derived from EPA Reference Method 6C.

Table 3-2 Particulate Emission Results

Parameters	Run #6	Run #7	Run #8	Average
Exhaust Temperature, Ts (F)	280	285	285	283
Exhaust Moisture (%)	21.94	21.67	23.42	22.35
Exhaust Velocity, Vs (fpm)	1787	1807	1944	1846
Exhaust Flow Rate, Qs std (dscfm)	17317	17454	18356	17709
Method 5 Particulate				
gr/dscf	0.0636	0.0575	0.0765	0.0659
gr/dscf @ 8% O ₂	0.0672	0.0566	0.0880	0.0706
lb/hr*	9.4368	8.6000	12.0354	10.0241

Note: * Particulate emissions reported in lb/hr units were calculated as follows:

$$\text{lb/hr} = (\text{gr/dscf}) \times (\text{lb/7000 gr}) \times (\text{dscf/min}) \times (60 \text{ min/hr})$$

Table 3-3 Method 10 Summary Table

Concentration data:

Method 10 - CO

Run 1	62 ppm	
Run 2	55 ppm	
Run 3	74 ppm	
Average	64 ppm	4.62E-06 lb CO/dscf*

$$* = (MW) * 2.59E-09 \text{ lb/dscf/ppm} * (\text{PPM})$$

Mass Emission Data:

Average Test Conditions:

	Run #1	Run #2	Run #3	Avg.
Stack Temp, F	299	274	282	285
Stack Velocity, ft/s	31.5	29.6	32.0	31.0
Stack Moisture (mass/mass)	0.22	0.20	0.24	0.22
Stack Pressure, "Hg absolute	27.21	27.21	27.21	27.21
Area (ft ²)				18.99

Avg. CO Emission Rate, lb/hr* 6.3

*Based on: (concentration / dscf) * (1-%moisture/100) * Tstd/Tstack *
Pstack/Pstd * stack gas velocity * stack area

$$4.62 \text{ ppm} \times 2.59 \text{E-09 lb/dscf/ppm} \times (1 - 22/100) \times \frac{27.21}{27.21} \times 31.0 \text{ ft/s} \times 18.99 \text{ ft}^2 = 6.3 \text{ lb/hr}$$

4.2 Process Sample Tests

The collected fuel sample was tested for moisture, combustibles, ash, and heating value. Results of this analysis are presented in Table 2-1 and Appendix A.

5. QA/QC ACTIVITIES

5.1 Particulate Testing

No QA/QC problems occurred during total particulate testing.

5.2 Method 5 Train Metering System Audit

The metering system was calibrated against a laboratory based calibration dry gas meter using the procedure specified in Method 5. Appendix C shows the dry gas meter calibration performed in the laboratory prior to this project. Appendix C shows the data from the field calibration check of the instrument. Audit results indicated that the dry gas meter was operating correctly during the test.

5.3 Method 5 Analysis Blank Audits

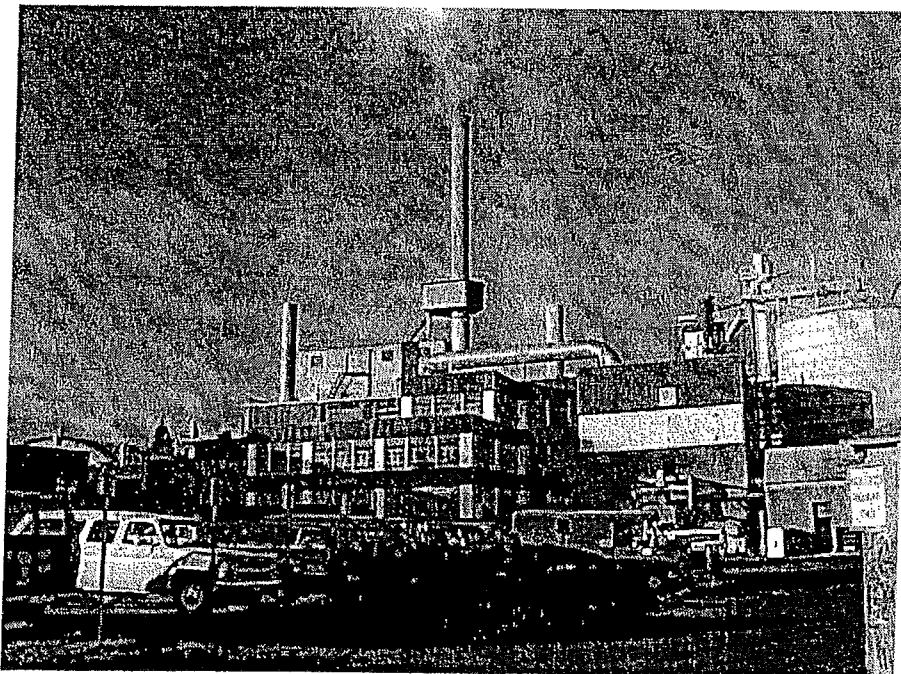
Field blanks of the acetone used for nozzle and probe rinsing were obtained and analyzed similarly to the acetone wash samples, per the required Method 5 procedures.

5.4 Instrument Analysis

Appendix B presents field calibration checks of the instruments. All results fall within allowable standards.

SOURCE EVALUATION REPORT

University of Idaho
Moscow, Idaho



Wood Waste-Fired Boiler Exhaust
Particulate and Opacity

January 5, 2005

Project No. 2291

Permit No. T1-040207

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1. CERTIFICATIONS

1.1 Test Team Leader

I hereby certify that the test detailed in this report, to the best of my knowledge, was accomplished in conformance with applicable rules and good practices. The results submitted herein are accurate and true to the best of my knowledge.

Name: Thomas A. Rhodes, E.I.T.

Signature _____ Date _____

1.2 Report Review

I hereby certify that I have reviewed this report and find it to be true and accurate, and in conformance with applicable rules and good practices, to the best of my knowledge.

Name: David R. Rossman, P.E.

Signature _____ Date _____

Expires 12/31/2006

1.3 Report Review

I hereby certify that I have reviewed this report and find it to be true and accurate, and in conformance with applicable rules and good practices, to the best of my knowledge.

Name: Michael E. Wallace, P.E.

Signature _____ Date _____

2. INTRODUCTION

2.1 Client: University of Idaho
Facilities Management

2.2 Physical Location: Power Plant
Moscow, Idaho

2.3 Mailing Address: 1108 W. Sixth Street
Moscow, ID 83844-2030

2.4 Test Log:

Wood-Fired Boiler Exhaust: Particulate and Opacity

Test Date	Run No.	Test Time
January 5, 2005	1	08:38 – 09:40
"	2	10:09 – 11:12
"	3	11:34 – 12:36

Summary: Three valid runs

2.5 Test Purpose: Compliance with Operating Permit No. T1-040207
issued by the Idaho Department of Environmental Quality (DEQ).

2.6 Background Information: None

2.7 Participants:

Horizon Personnel:

Thomas A. Rhodes, E.I.T., Team Leader
Michael E. Wallace, P.E., Calculations and QA/QC
David R. Rossman, P.E., Report Review
Kate Krisor, Technical Writer

Test Arranged by: Mike Lyngholm, University of Idaho

Visible Emissions (Opacity) Read By: Mike Lyngholm

Observers:

Plant Personnel: Mike Lyngholm

Test Plan Sent to: Clayton Steele, Idaho DEQ

3. SUMMARY OF RESULTS – 3.1 Table(s) of Results:

Table 1

Wood-Fired Boiler Test Results

Test Date: January 5, 2005	Units	Run 1	Run 2	Run 3	Average
Start Time		08:38	10:09	11:34	
End Time		09:40	11:12	12:36	
Sampling Time	min	60	60	60	60
Sampling Results					
Particulate-Filterable (Actual)	gr/dscf	0.039	0.038	0.031	0.036
Conc. @ 8 % O ₂	gr/dscf	0.038	0.036	0.028	0.034
Permit Limit 8% O ₂	gr/dscf				0.08
Particulate Rate	lb/hr	6.7	6.4	4.5	5.9
Permit limit	lb/hr				17.24
Opacity	%	1	1.5	1	1
Sample Volume	dscf	47.8	46.5	42.2	45.5
Sample Weight, Filterable	mg	120	115	84	106
Percent Isokinetic	%	96	97	97	97
O ₂	%	7.8	7.1	7.0	7.3
CO ₂	%	12.2	12.9	13.0	12.7
Source Parameters					
Flow Rate (Actual)	acf/min	37,900	37,600	32,000	35,800
Flow Rate (Standard)	dscf/min	20,200	19,600	17,300	19,000
Temperature	°F	315	322	304	314
Moisture	%	16.0	16.7	15.8	16.2
Process/Production Data					
Steam Production	10 ³ lb/hr	56.5	57.3	53.2	55.7
Total Wood Burned During Test	BDT				24
Multiclone Pressure Drop	in. H ₂ O	2.6	2.6	2.2	2.5

3.2 Description of Collected Samples:

Filters: Grey

Impinger Contents: Clear

3.3 Discussion of Errors and Quality Assurance Procedures: This table is taken from a paper entitled "Significance of Errors in Stack Sampling Measurements", by R.T. Shigahara, W.F. Todd and W.S. Smith. It summarizes the maximum error expressed in percent, which may be introduced into the test procedures by equipment or instrument limitations.

Measurement	% Max Error
Stack Temperature T_s	1.4
Meter Temperature T_m	1.0
Stack Gauge Pressure P_s	0.42
Meter Gauge Pressure P_m	0.42
Atmospheric Pressure P_{atm}	0.21
Dry Molecular Weight M_d	0.42
Moisture Content B_{ws} (Absolute)	1.1
Differential Pressure Head ΔP	10.0
Orifice Pressure Differential ΔH	5.0
Pitot Tube Coefficient C_p	2.4
Orifice Meter Coefficient K_m	1.5
Diameter of Probe Nozzle D_n	0.80

3.3.1 Manual Methods: QA procedures outlined in the test methods were followed, including equipment specifications and operation, calibrations, sample recovery and handling, calculations and performance tolerances.

On-site quality control procedures include pre- and post-test leak checks on trains and pitot systems. If pre-test checks indicate problems, the system is fixed and rechecked before starting testing. If post-test leak checks are not acceptable, the test run is voided and the run is repeated. The results of the quantifiable QA checks for the test runs are on the Field Data sheets.

Horizon does semi-annual calibrations on pitots, thermocouples, and nozzles. Pitots are examined before and after each use to confirm that they are still aligned. Pitot systems are leak-checked before traverses begin, and after runs are completed (before any component disassembly). The results were within allowable tolerances. Prior to use, thermocouple systems are checked for ambient temperature before heaters are started or readings are taken. Problems with connections or polarity are obvious from these and readings as temperatures rise.

3.3.2 Continuous Analyzer Gas Sampling: Analyzer system checks performed are noted on the Calibration Field Record sheet, with procedures documented in the QA/QC section in the Appendix. All calibration standards used in the testing were EPA Protocol 1. Certificates for the gases are in the Appendix.

4. SOURCE DESCRIPTION AND OPERATION

4.1 Process and Control Device Description and Operation:

The wood fired boiler was manufactured by Nebraska, Model S-B00 and is rated at 60,000 pounds of steam per hour. The boiler is used to produce steam for heating the campus during cold weather and to provide steam to absorption chillers to cool the campus buildings in summer. During the testing the boiler steam production averaged 55,700 pounds per hour.

A multiclone controls particulate emissions.

Average Boiler Fuel Sample Information

Wood used during the test was brought to the site in two separate trucks.
One representative sample per truckload was collected.

Primary Fuel: Hugged Fuel

Wood (estimated): White: 80%

Bark: 20%

Average Moisture, % Wet Basis: 37%

Average Percent Dry Fuel <1/8": 7%

4.2 Test Ports: Ports and traverse points are described and diagrammed on the Field Data sheets.

4.2.1 Test Duct Characteristics:

Construction: Steel

Shape: Circular

Size: 58.75 inches inside diameter

Orientation: Vertical

Flow straighteners: None

Extension: None

Cyclonic Flow: None expected

Meets EPA M-1 Criteria: Yes

4.3 Process & Control Equipment Flow Diagram: See
Process/Sampling Equipment Flow Diagram in Appendix

4.4 Operating Parameters: See Production/Process Data section of
Appendix

**4.5 Process Startups/Shutdowns or Other Operational Changes
During Tests:** Process was continuous during testing.

5. SAMPLING AND ANALYTICAL PROCEDURES

5.1 Sampling Procedures:

5.1.1 Sampling and Analytical Methods: Testing was conducted in accordance with EPA Methods in Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Appendix A, July 1, 2002.

Flow Rate: EPA Methods 1 and 2 (S-type pitot w/particulate traverses)

CO₂ and O₂: EPA Method 3A (integrated Tedlar bag sample, NDIR and paramagnetic analyzers)

Moisture: EPA Method 4 (incorporated w/ M-5)

Particulate: EPA Method 5 (filterable material only)

Opacity: EPA Method 9 (thirteen minutes per test)

5.1.2 Sampling Notes: To obtain the fuel moisture content, the wood fuel samples were placed in an oven set at approximately 220°F. The samples are normally dried for 24 hours, however the samples were left in the oven for four days. The entire wood sample obtained during the testing was dried, so it was not possible to repeat the test. The average moisture was 37%, very similar to the plant's measurement of moisture (average 39%) for both truckloads. These results are for information about the fuel used in the boiler, and are not used in any other calculation.

5.1.3 Laboratory Analysis:

Analyte	Laboratory
Particulate	Antech

5.2 Sampling Train Diagrams:

Figure 1
EPA Methods 1, 2, 4, & 5 Particulate Sample Train Diagram

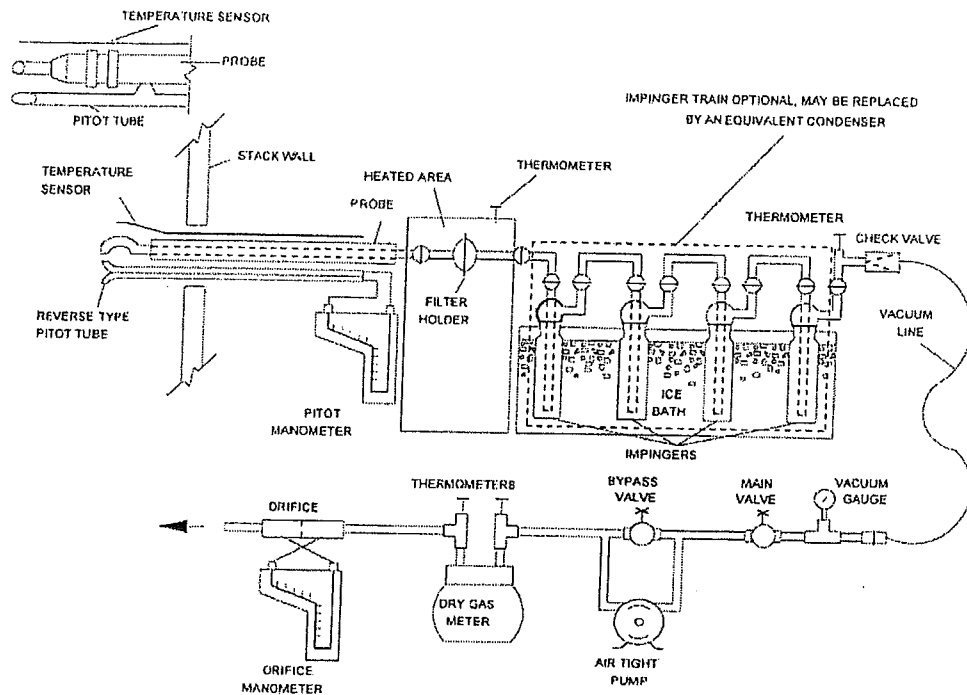


Figure 5-1. Particulate Sampling Train

5.3 Horizon Test Equipment:

5.3.1 Manual Methods:

<u>Equipment Name</u>	<u>Identification</u>
Meter Box	Graseby Model 2010A, Horizon No. 7
Inclined Liquid Manometer	Incorporated with H.E. No. 7
Probe Liner	Stainless Steel
Pitots and Thermocouples	5-2, 5-5, 5-6
Stainless Steel Nozzles	607, 611, 621
Barometer	Test Van III

5.3.2 Continuous Emissions Monitors and Methods:

Gas	Brand	Model	Range	Measurement Method	Method
O ₂	Servomex	1400	0-25%	Paramagnetic	3A
CO ₂	Servomex	1400	0-25%	Chopperless NDIR	3A

5.3.3 Tedlar Bag Sampling Setup:

Probe: Stainless Steel
Pump: Squeeze bulb

6. DISCUSSION

The results of the testing should be valid in all respects. All quality assurance checks including leak checks, instrument checks, and calibrations, were within method-allowable tolerances.